Driving toward circular business models

Conditions and strategies in the built environment

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Driving toward circular business models: Conditions and strategies in the built environment

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Industrial PhD

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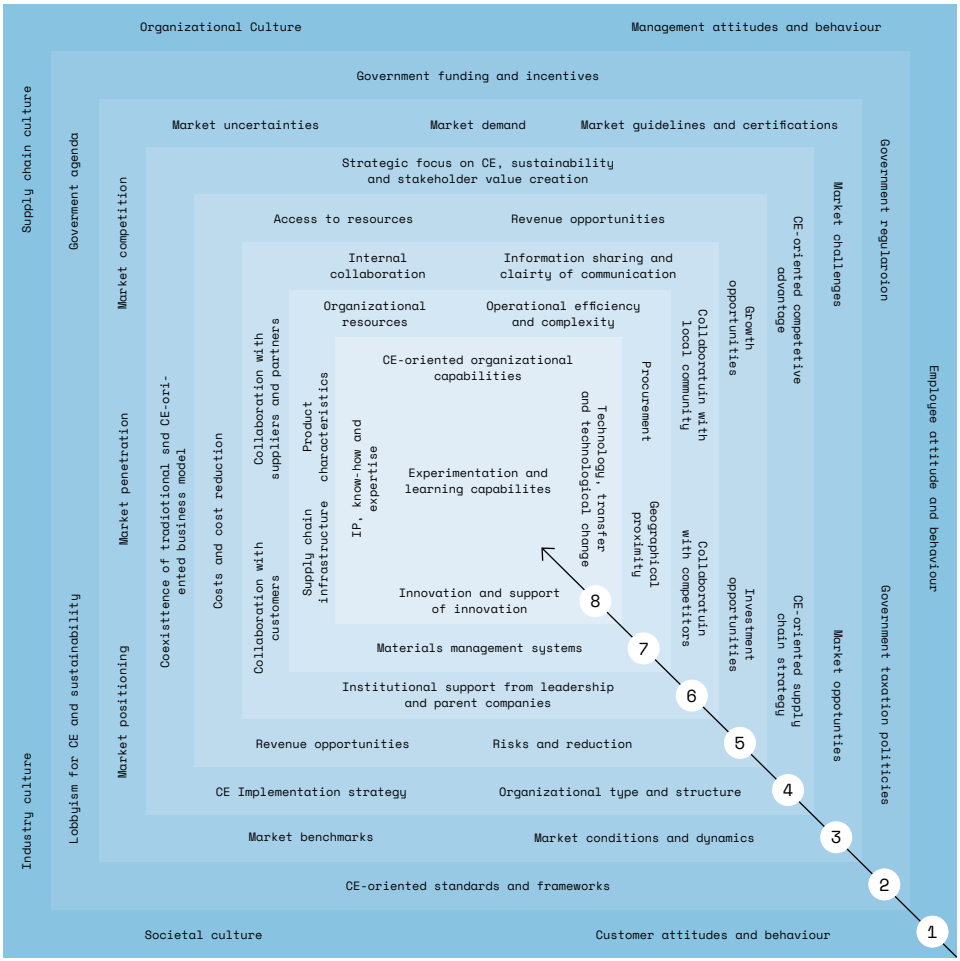
The first article being covered is based on research which uncovered a collection of determinants that drive or hinder firms' adoption of circular business models (CBMs). Through a systematic literature review, 54 different categories of determinants were identified, which were grouped into eight separate macro categories: culture, regulation, market, strategy, business case, collaboration, operations, and knowledge. This research found one of the determining factors to be "Conservatism and reluctance of the industry when it comes to the green transition" (Assmann et al., 2023, p. 3; Rizos et al., 2016). The built environment industry has been characterized as slow to change (Gambatese & Hallowell, 2011), and multiple scholars report a lack of innovativeness (Brockmann et al., 2016; Koskela & Vrijhoef, 2001; Laborde & Sanvido, 1994).



1 Culture
2 Regulation
3 Market
4 Strategy
5 Business case
6 Collaboration
7 Operations
8 Knowledge

Figure 1:

Category map of the determinants of circular business model adoption, ranging from most external to most internal category

The second article therefore set out to investigate the connection between innovation and lack of innovativeness, using the built environment as its research context. The article revealed that although the built environment was still considered by experts to be conservative, there were a plethora of drivers toward circular business model innovation (CBMI), and experts argued that CBMI was increasing due to number of drivers. As there has been limited research on the application of CBMI in the context of the built environment, particularly studies that provide strategic recommendations for practitioners to apply to their own business models and organizations (Adams et al., 2017), this article aimed to fill this gap by conducting conducted a Delphi study with 25 international experts on the circular economy, CBMs, and the built environment. The data gathered through the study allowed the authors to identify the barriers and drivers that the experts considered imminent in the industry, and 34 strategies that can be used to account for these and stimulate CBMI in the built environment. Next, we classified these strategies into four categories forclosing resource loops: 'Understanding the loop,' 'Facilitating the loop', 'Promoting the loop', and 'Regulating the loop'.

The third article examined how circular and linear startups in the built environment nurture their entrepreneurial ecosystems to increase resilience in response to crises. Specifically, we used the context of the impending material crisis in the built environment. Our findings highlight how the startups that actively nurture their ecosystems are gaining resilience. We found that the circular startups explicitly nurtured each ecosystem to the point of treating it as a living organism in need of food and care to be in optimal health; sharing data and projects, and dividing roles and opportunities for commercial purposes, and fostering a "give and take" mentality. We argue that cross-collaboration is the essence of circularity, and that startups with CBMs can thus be more likely and able than linear startups to strengthen resilience by being intimately connected with and nurturing of their ecosystems.

Figure 2:

Circular business model
innovation strategies

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